What is claimed is:

1. A method for changing a magnification factor of an imaging device, said method comprising:

providing at least a first deformable lens and a second deformable lens, the first deformable lens having a first focal length, the second deformable lens having a second focal length;

disposing the first deformable lens spaced from the second deformable lens by a distance substantially equal to a sum of the first and second focal lengths; and

providing an electric field on the first and second deformable lenses so as to change the first focal length by a first amount and to change the second focal length by a second amount such that a sum of the first and second amounts is substantially equal to zero.

2. The method of claim 1, wherein the imaging device has a chamber having a first side and an opposing second side, the first deformable lens comprising a first droplet of a first liquid having a first refractive index disposed on the first side, the second deformable lens comprising a second droplet of a second liquid having a second refractive index disposed on the second side, and wherein the chamber is filled with a third liquid between the first side and the second side in contact with the first and second droplets, the third liquid having a third refractive index, the third refractive index smaller than the first refractive index and also smaller than the second refractive index.

3. The method of claim 2, wherein the imaging device further comprises a first electrode layer adjacent to the first side, a second electrode layer adjacent to the second side, and at least a third electrode layer disposed in cooperative relation to the first and second electrode layers for providing the electric field.

4. The method of claim 3, wherein the image device further comprises a potentiometer having a first end operatively connected to the first electrode layer, a second end operatively connected to the second electrode layer and a center tap operatively connected to the third electrode layer, and wherein the first and second ends

of the potentiometer are operatively connected to a voltage source for providing the electric field.

5. The method of claim 4, further comprising:

changing the center tap location on the potentiometer for changing the first and second focal lengths.

6. The method of claim 2, wherein the first refractive index is different from the second refractive index.

7. The method of claim 2, wherein the first refractive index is substantially equal to the second refractive index.

8. An optical system having an optical axis, comprising:

a first deformable lens, having a first focal length, disposed substantially on the optical axis; and

a second deformable lens, having a second focal length, disposed substantially on the optical axis spaced from the first deformable lens by a distance substantially equal to a sum of the first and second focal lengths.

9. The optical system of claim 8, further comprising:

a plurality of electrodes, disposed in relation to the first and second deformable lenses, wherein the electrodes receive electrical power for providing an electric field on the first deformable lens to change the first focal length by a first amount and on the second deformable lens to change the second focal length by a second amount, such that a sum of the first and second amounts is substantially equal to zero.

10. The optical system of claim 8, wherein the first deformable lens comprises a first liquid droplet disposed on a first surface adjacent to at least one of the electrodes, and the second deformable lens comprises a second liquid droplet disposed on a second surface adjacent to at least another one of the electrodes.

11. The optical system of claim 10, wherein the first surface and the second surface are inner surfaces of an enclosed chamber filled with another liquid different from the first liquid droplet and the second liquid droplet.

12. An imaging device for forming images at a plurality of magnification factors, said device comprising:

an optical system having a first end and a second end along an optical axis, the optical system comprising:

a first deformable lens, having a first focal length, disposed near the first end;

a second deformable lens having a second focal length, disposed at the second end, wherein the first deformable lens is spaced from the second deformable lens by a distance substantially equal to a sum of the first and second focal lengths; and

a plurality of electrodes, disposed in relation to the first and second deformable lenses, wherein the electrodes receive electrical power for providing an electric field on the first deformable lens to change the first focal length, and on the second deformable lens to change the second focal length; and

an optical component, disposed adjacent to the second end of the optical system along the optical axis for image formation.

13. The imaging device of claim 12, further comprising:

an electrical device, disposed in relation to the first and second deformable lenses, for providing the electrical power to the electrodes.

14. The imaging device of claim 13, wherein the electrodes comprise:

a common electrode,

a first electrode adjacent to the first deformable lens and in a cooperative relation with the common electrode to provide the electric field substantially to the first deformable lens, and

a second electrode adjacent to the second deformable lens and in a cooperative relation with the common electrode to provide the electric field substantially to the second deformable lens.

15. The imaging device of claim 14, wherein the electrical device comprises a potentiometer having:

a center tap operatively connected to the common electrode;

a first end operatively connected to the first electrode; and

a second end operatively connected to the second electrode, wherein the first and second ends are operatively connected to a voltage source to provide the electrical power to the first and second electrodes, and wherein the position of the center tap in relation to the first end can be changed so as to change the electric field on the first and the second deformable lenses.

16. A portable device comprising:

a voltage control mechanism;

an optical system having a first end and a second end along an optical axis, the optical system comprising:

a first deformable lens, having a first focal length, disposed near the first end;

a second deformable lens having a second focal length, disposed at the second end, wherein the first deformable lens is spaced from the second deformable lens by a distance substantially equal to a sum of the first and second focal lengths; and

a plurality of electrodes disposed in relation to the first and second deformable lenses, operatively connected to the voltage control mechanism for providing a first electric field on the first deformable lens and a second electric field on the second deformable lens so as to change the first focal length by a first amount and to change the second focal length by a second amount, such that a sum of the first and second amount is substantially equal to zero; and

an image forming component, disposed adjacent to the second end of the optical system along the optical axis for image formation at an image plane.

17. The portable device of claim 16, comprising a mobile terminal.